

A new subgenus of Crassatellidae (Mollusca : Bivalvia) from Natal

by

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ABSTRACT

Crassatella burnupi Lamy, 1920, from off southern Natal is discussed, placed in the genus *Eucrassatella* Iredale, 1924 and designated as type-species of the new subgenus *Crassasulca*.

Lamy (1920: 153, text fig.) described *Crassatella Burnupi* [*sic*] on the basis of a single left valve which, although 'en assez médiocre état, roulee et décolorée, . . . offre des caractères très nets la différenciant tellement de toutes les formes connues que je n'hésite pas à la considérer comme appartenant à une espèce nouvelle'.

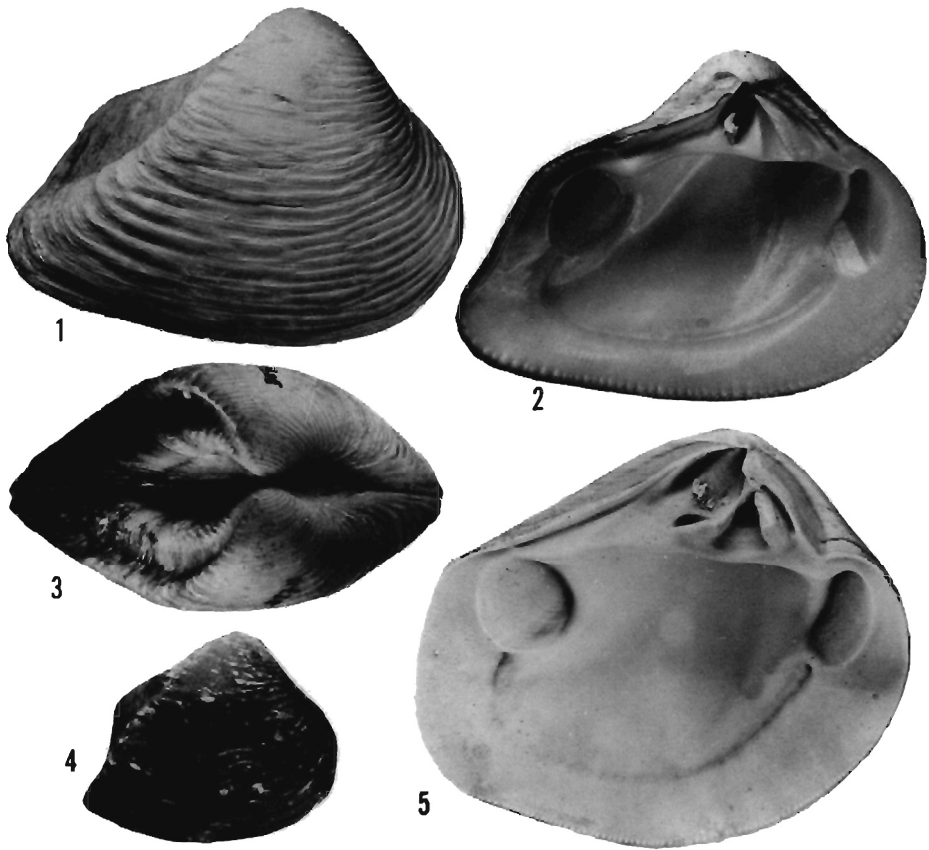
Despite Lamy's statement, Barnard (1964: 456) severely criticised him, stating: 'No further specimens of this curious form seem to have been recorded; which is perhaps not surprising because wave action and weathering do not always produce the same shape from shells originally alike. Lamy did not suggest to what extent the posterior margin was due to wear. How thick is the margin? Such a specimen should not have been described as a new species. It is scarcely eligible for inclusion in the faunal list'.

While I was on a visit to the Natal Museum in 1984, Dr R. N. Kilburn loaned me three paired-valve specimens of *C. burnupi* from Aliwal Shoal (30°15'S: 30°49'E), two of which, given to the Museum in 1979, are said to be from 'Off Green Point, east of the "Pinnacles", in pockets of very coarse shell gravel between large sponges; 28 m'. These were presented to the Museum by 'D. Smith, 17/vii/'79'. The third specimen, said to be from '± 40 ft., under rocks' was donated by 'A. Read, 5/ix/'84'. These three specimens agree very closely with Lamy's description and illustration of the type specimen from near the mouth of the Umkomaas River, adjacent to the Aliwal Shoal, and clearly indicate that he was correct in considering it to be a distinct and previously unknown species.

The 'caractères très nets la différenciant tellement de toutes les formes connues' cited by Lamy when he described the species are primarily a strong posterior umbonal ridge, extending to the ventral margin of the posterior end and bearing on its outer and posterior sides pronounced elevated nodules. Behind this ridge is a relatively deep, broad and round-bottomed sulcation, which passes up into a second, less pronounced umbonal ridge that extends to form the dorsal side of the posterior margin; the two ridges resulting in a depressed, markedly concave, marginal end at the termination of the sulcation between them. Behind

the more dorsal ridge is a deeply depressed escutcheon that extends up under the moderately high umbones.

These characters result in a very different type of valve to that present in any known crassatelloid genus. Both *Crassatella* s.s. (Lamarck, 1799: 85) and *Eucrassatella* Iredale (1924: 181, 202), the two most commonly cited genera, have only a low, rounded, inconspicuous posterior umbonal ridge and a posterior end that is slightly convex, almost straight. *Eucrassatella kingicola* (Lamarck, 1805), type species of *Eucrassatella*, is almost smooth except for relatively weak concentric ribs immediately below the subcentral umbones that die out ventrally. This latter feature varies between species, however; on a specimen of *E. pulchra* (Reeve 1843: 43; see also Conch. Icon., *Crassatella*, pl. 3, sp. 16), from Perth, Western Australia, in the Tulane University collections, the ribs and interspaced



Figs 1-5. 1-4. *Eucrassatella* (*Crassasulca*) *burnupi* (Lamy). 1. Exterior, left valve, note concentric ornamentation and strong posterior umbonal ridge. 2. Interior right valve, note elongate resilifer and marginal crenulations. 3. Dorsal view, paired valves, note posterior umbonal ridges and broad median concavity. Hypotype B8711, Aliwal Shoal, Natal. 4. Lateral view, immature valve. Hypotype B1194, Aliwal Shoal, off Green Point, east of the 'Pinnacles'. 5. *Crassatella* (*Crassatella*) *ponderosa* (Gmelin), interior right valve, note different hinge with short resilifer. Lutetian, Eocene, Damery, France. Tulane University coll. (All natural size)

grooves occur over the entire surface of the valve anterior to the inconspicuous posterior umbonal ridge.

The hinge of '*C.* *burnupi*' is similar to that of *Eucrassatella* with the resilifer extending across the hinge plate and with relatively straight cardinal teeth anterior to it. In contrast, the resilifer of *Crassatella* s.s. is present only on the dorsal half of the hinge-plate width, and the posterior cardinal tooth is curved under its ventral end.

The anterior and ventral inner margins of '*C.* *burnupi*' are strongly crenulated, as is the posterior margin immediately below the termini of the posterior umbonal ridges, but is smooth under the median sulcus. In *Crassatella ponderosa* (Gmelin, 1791) the anterior and ventral margins are rather weakly crenulated, but the posterior is entirely smooth; in *Eucrassatella kingicola* (Lamarck) all inner margins lack crenulations.

Genus EUCRASSATELLA Iredale, 1924

Type species, by original designation: *Crassatella kingicola* Lamarck, 1805, Recent; southeastern and southern Australia, Tasmania.

Subgenus *Crassasulca* n. subgen.

Type species, here designated: *Crassatella burnupi* Lamy, 1920; Recent, off southern Natal, South Africa.

Description: A relatively inflated crassatellid subgenus with a *Eucrassatella*-like hinge, but possessing strong posterior umbonal ridges separated by a prominent, relatively deep, round-bottomed sulcus; orthogyrous umbones situated slightly in advance of mid-shell length; surface with numerous relatively low, rounded, concentric ribs on anterior part of valve that tend to concentrate together to form less numerous, broader and more elevated surficial folds, which terminate as elevated nodules on outer and posterior ends of umbonal ridge that extends to ventral side of posterior end of valve. Anterior and ventral margins denticulately crenulate. Adductor scars impressed, pallial line complete, lacking a sinus.

This subgenus is distinguished from all other crassatellid forms by the nature of the posterior ornamentation, as discussed above.

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ADDENDUM

Additional locality data for *Eucrassatella burnupi*: In addition to the material examined by Prof. Vokes, the Natal Museum possesses the following samples: Aliwal Shoal, 10–20 m, living shallowly buried in a sandpocket between large boulders, with posterior end of shell exposed (E2168, 3 + 2 valves), 9–18 m (D5294, 2 valves), 16 m (D5965, 1 + 1 valve), 10–20 m, northern Pinnacle (D1675, 1), all dived D. Herbert; off Port Shepstone, 50–55 m, 1 worn valve (B8884: R. Kilburn); Palm Beach, 1 worn valve (8736; R. Kilburn); Mzamba beach drift, 1 worn valve (D3129: R. Kilburn).

The known distribution of the species is thus from the Umkomaas area of the Natal south coast to just south of the Natal/Transkei border. Depth range 9–28 m, the valve dredged in 50–55 m probably having washed to that depth.

R. N. Kilburn